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L1	38	wavelet and 345/581-588.ccls.	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 10:21
L2	28	wavelet and 345/581-588.ccls. and resolution	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 11:37
L3	281	wavelet and reorder\$3 and resolution	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 11:37
L4	161	wavelet near transform\$5 and reorder\$3 and resolution	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 11:38
L5	136	wavelet near transform\$5 and reorder\$3 and resolution and coefficient	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 11:38
L6	41	wavelet near transform\$5 and reorder\$3 and resolution and coefficient and texture	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 11:43
L7	40	wavelet near transform\$5 and reorder\$3 and resolution and coefficient and texture and pixel	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 12:28
L8	4	wavelet near transform\$5 and reorder\$3 and resolution and coefficient and texture and pixel and select\$3 near2 (size shape section block)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 12:38
L9	9	wavelet near transform\$5 and reorder\$3 and resolution and coefficient and texture and pixel and defin\$3 near2 (size shape section block)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 13:12
L10	103	wavelet near transform\$5 and resolution and coefficient and texture and pixel and defin\$3 near2 (size shape section block)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 13:13
L11	20	wavelet near transform\$5 and texture and pixel and defin\$3 near2 (size shape section block) same resolution same coefficient	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 13:19
L12	4	wavelet near transform\$5 and texture and pixel and select\$3 near2 (size shape section block) same resolution same coefficient	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 13:20
L13	8	wavelet near transform\$5 and texture and pixel and determin\$3 near2 (size shape section block) same resolution same coefficient	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 13:46

L14	405	luo-jiebo.in. yu-yue.in. chen-chang\$.in.	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 13:47
L15	132	luo-jiebo.in. yu-yue.in. chen-chang-wen.in.	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 13:54
L16	37	(texture and wavelet and coefficient).clm.	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/10/31 13:54


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1 [Pyramid-based texture analysis/synthesis](#)



David J. Heeger, James R. Bergen

 September 1995 **Proceedings of the 22nd annual conference on Computer graphics and interactive techniques**

Publisher: ACM Press

 Full text available: [pdf \(1.18 MB\)](#)

 Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)


2 [Session P12: approximation and compression: Real-time decompression and visualization of animated volume data](#)

Stefan Guthe, Wolfgang Straßer

 October 2001 **Proceedings of the conference on Visualization '01**

Publisher: IEEE Computer Society

Full text available:

[pdf \(1.52 MB\)](#)

[Publisher Site](#)

 Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


Interactive exploration of animated volume data is required by many application, but the huge amount of computational time and storage space needed for rendering does not allow the visualization of animated volumes by now. In this paper we introduce an algorithm running at interactive frame rates using 3d wavelet transforms that allows for any wavelet, motion compensation techniques and various encoding schemes of the resulting wavelet coefficients to be used. We analyze different families and o ...

Keywords: compression for visualization, time critical visualization, volume rendering

3 [Intuitive interfaces for animation: Sound-by-numbers: motion-driven sound synthesis](#)

M. Cardle, S. Brooks, Z. Bar-Joseph, P. Robinson

 July 2003 **Proceedings of the 2003 ACM SIGGRAPH/Eurographics symposium on Computer animation SCA '03**

Publisher: Eurographics Association

 Full text available: [pdf \(18.32 MB\)](#)

 Additional Information: [full citation](#), [abstract](#), [references](#)


We present the first algorithm for automatically generating soundtracks for input animation based on other animations' soundtrack. This technique can greatly simplify the production of soundtracks in computer animation and video by re-targeting existing soundtracks. A segment of source audio is used to train a statistical model which is then used to generate variants of the original audio to fit particular constraints. These constraints can either be specified explicitly by the user in the form ...

Keywords: audio, multimedia, sound synthesis, soundtrack

4 Graphcut textures: image and video synthesis using graph cuts



Vivek Kwatra, Arno Schödl, Irfan Essa, Greg Turk, Aaron Bobick

July 2003 **ACM Transactions on Graphics (TOG)**, Volume 22 Issue 3

Publisher: ACM Press

Full text available: [pdf\(23.86 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

In this paper we introduce a new algorithm for image and video texture synthesis. In our approach, patch regions from a sample image or video are transformed and copied to the output and then stitched together along optimal seams to generate a new (and typically larger) output. In contrast to other techniques, the size of the patch is not chosen *a-priori*, but instead a *graph cut* technique is used to determine the optimal patch region for any given offset between the input and output ...

Keywords: image and video processing, image-based rendering, machine learning, natural phenomenon, texture synthesis

5 Implementation of a scalable MPEG-4 wavelet-based visual texture compression system



L. Nachtergaele, B. Vanhoof, M. Peón, G. Lafruit, J. Bormans, I. Bolsens

June 1999 **Proceedings of the 36th ACM/IEEE conference on Design automation**

Publisher: ACM Press

Full text available: [pdf\(97.90 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

6 Second-generation image coding: an overview



M. M. Reid, R. J. Millar, N. D. Black

March 1997 **ACM Computing Surveys (CSUR)**, Volume 29 Issue 1

Publisher: ACM Press

Full text available: [pdf\(12.23 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

This article gives an overview of a diverse selection of currently used second-generation image coding techniques. These techniques have been grouped into similar categories in order to allow a direct comparison among the varying methods. An attempt has been made, where possible, to expand upon and clarify the details given by the original authors. The relative merits and shortcomings of each of the techniques are compared and contrasted.

Keywords: MRI, compression, image coding

7 Texture synthesis: Wavelet noise



Robert L. Cook, Tony DeRose

July 2005 **ACM Transactions on Graphics (TOG)**, Volume 24 Issue 3

Publisher: ACM Press


Full text available: [pdf\(3.05 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Noise functions are an essential building block for writing procedural shaders in 3D computer graphics. The original noise function introduced by Ken Perlin is still the most popular because it is simple and fast, and many spectacular images have been made with it. Nevertheless, it is prone to problems with aliasing and detail loss. In this paper we analyze these problems and show that they are particularly severe when 3D noise is used to texture a 2D surface. We use the theory of wavelets to cr ...


Keywords: multiresolution analysis, noise, procedural textures, rendering, shading, texture synthesis, texturing, wavelets

8 Rendering II: Second order image statistics in computer graphics



 Erik Reinhard, Peter Shirley, Michael Ashikhmin, Tom Troscianko
August 2004 **Proceedings of the 1st Symposium on Applied perception in graphics and visualization APGV '04**

Publisher: ACM Press

Full text available:  [pdf\(586.77 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)



The class of all natural images is an extremely small fraction of all possible images. Some of the structure of natural images can be modeled statistically, revealing striking regularities. Moreover, the human visual system appears to be optimized to view natural images. Images that do not behave statistically as natural images are harder for the human visual system to interpret. This paper reviews second order image statistics as well as their implications for computer graphics. We show that th ...

9 Textures and radiosity: controlling emission and reflection with texture maps



 Reid Gershbein, Peter Schröder, Pat Hanrahan
July 1994 **Proceedings of the 21st annual conference on Computer graphics and interactive techniques**

Publisher: ACM Press


Full text available:  [pdf\(239.46 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)
 [ps\(3.52 MB\)](#)

In this paper we discuss the efficient and accurate incorporation of texture maps into a hierarchical Galerkin radiosity algorithm. This extension of the standard algorithm allows the use of textures to describe complex reflectance and emittance patterns over surfaces, increasing the realism and complexity of radiosity images. Previous approaches to the inclusion of textures have either averaged the texture to yield a single color for the radiosity computations, or exhaustively generated de ...

Keywords: global illumination, hierarchical radiosity, texture mapping, wavelets

10 Image retrieval using flexible image subblocks



 ByoungChul Ko, Hae-Sung Lee, Hyeran Byun
March 2000 **Proceedings of the 2000 ACM symposium on Applied computing - Volume 2**

Publisher: ACM Press

Full text available:  [pdf\(573.94 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)


Keywords: Ohta-color space, central moment, color histogram, flexible subblock, multi-step k-nearest neighbor search

11 Textures: Hybrid texture synthesis



Andrew Nealen, Marc Alexa
June 2003 **Proceedings of the 14th Eurographics workshop on Rendering EGRW '03**

Publisher: Eurographics Association

Full text available:  [pdf\(5.64 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Patch-based texture synthesis algorithms produce reasonable results for a wide variety of texture classes. They preserve global structure, but often introduce unwanted visual artifacts along patch boundaries. Pixel-based synthesis algorithms, on the other hand, tend to blur out small objects while maintaining a consistent texture impression, which in return doesn't necessarily resemble the input texture. In this paper, we propose an adaptive and hybrid algorithm. Our algorithm adaptively splits ...

12 Session 7: rendering: Detail synthesis for image-based texturing

Ryan M. Ismert, Kavita Bala, Donald P. Greenberg

April 2003 **Proceedings of the 2003 symposium on Interactive 3D graphics****Publisher:** ACM PressFull text available:  pdf(3.31 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Image-based modeling techniques permit the creation of visually interesting geometric models from photographs. But traditional image-based texturing (IBT) techniques often result in extracted textures of poor, uneven quality. This paper introduces a novel technique to improve the quality of image-based textures. We compute a simple and efficient texture quality metric based on the Jacobian of the imaging transform. We identify the correlation between the values of the Jacobian metric and the lev ...

Keywords: image-based modeling, texture mapping**13** Modeling and rendering: Web-based progressive geometry transmission using subdivision-surface wavelets

Jens Jessl, Martin Bertram, Hans Hagen

March 2005 **Proceedings of the tenth international conference on 3D Web technology****Publisher:** ACM PressFull text available:  pdf(871.68 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Web-based geometry transmission profits from a transmission system, which is both progressive and compressive. For this application, the wavelet transform has emerged as a suitable tool. We present a new zerotree coding scheme for compressing coefficients resulting from the wavelet transform of B-spline and Catmull-Clark surfaces. It results from a generalization of the original zerotree coding algorithm for image compression. The main idea is the construction of a suitable forest-structure of w ...

Keywords: geometry compression, progressive transmission, subdivision surfaces, wavelet transform, web-based 3D graphics, zerotree coding**14** A survey on wavelet applications in data mining

Tao Li, Qi Li, Shenghuo Zhu, Mitsunori Ogihara

December 2002 **ACM SIGKDD Explorations Newsletter**, Volume 4 Issue 2**Publisher:** ACM PressFull text available:  pdf(330.06 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Recently there has been significant development in the use of wavelet methods in various data mining processes. However, there has been written no comprehensive survey available on the topic. The goal of this is paper to fill the void. First, the paper presents a high-level data-mining framework that reduces the overall process into smaller components. Then applications of wavelets for each component are reviewed. The paper concludes by discussing the impact of wavelets on data mining research an ...


15 Combining frequency and spatial domain information for fast interactive image noise removal

Anil N. Hirani, Takashi Totsuka

August 1996 **Proceedings of the 23rd annual conference on Computer graphics and interactive techniques****Publisher:** ACM PressFull text available:  pdf(515.09 KB)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**Keywords:** POCS, projections into convex sets, scratch and wire removal

16 Fast texture synthesis using tree-structured vector quantization


Li-Yi Wei, Marc Levoy

July 2000 **Proceedings of the 27th annual conference on Computer graphics and interactive techniques****Publisher:** ACM Press/Addison-Wesley Publishing Co.Full text available:  [pdf\(4.61 MB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Texture synthesis is important for many applications in computer graphics, vision, and image processing. However, it remains difficult to design an algorithm that is both efficient and capable of generating high quality results. In this paper, we present an efficient algorithm for realistic texture synthesis. The algorithm is easy to use and requires only a sample texture as input. It generates textures with perceived quality equal to or better than those produced by previous techniques, but ...

Keywords: compression algorithms, image processing, texture synthesis**17** Global illumination of glossy environments using wavelets and importance

Per H. Christensen, Eric J. Stollnitz, David H. Salesin, Tony D. DeRose

January 1996 **ACM Transactions on Graphics (TOG)**, Volume 15 Issue 1**Publisher:** ACM PressFull text available:  [pdf\(5.00 MB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

We show how importance-driven refinement and a wavelet basis can be combined to provide an efficient solution to the global illumination problem with glossy and diffuse reflections. Importance is used to focus the computation on the interactions having the greatest impact on the visible solution. Wavelets are used to provide an efficient representation of radiance, importance, and the transport operator. We discuss a number of choices that must be made when constructing a finite element alg ...

18 Clustering: A comparative study on content-based music genre classification

Tao Li, Mitsunori Ogiwara, Qi Li

July 2003 **Proceedings of the 26th annual international ACM SIGIR conference on Research and development in information retrieval****Publisher:** ACM PressFull text available:  [pdf\(175.24 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Content-based music genre classification is a fundamental component of music information retrieval systems and has been gaining importance and enjoying a growing amount of attention with the emergence of digital music on the Internet. Currently little work has been done on automatic music genre classification, and in addition, the reported classification accuracies are relatively low. This paper proposes a new feature extraction method for music genre classification, *DWCHs*. *DWCHs* s ...

Keywords: feature extraction, multi-class classification, music genre classification, wavelet coefficients histogram**19** Spherical wavelets: efficiently representing functions on the sphere

Peter Schröder, Wim Sweldens

September 1995 **Proceedings of the 22nd annual conference on Computer graphics and interactive techniques****Publisher:** ACM PressFull text available:  [pdf\(370.48 KB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: sphere, wavelets**20** Semantic based image retrieval: a probabilistic approach

Ben Bradshaw

October 2000 **Proceedings of the eighth ACM international conference on Multimedia****Publisher:** ACM PressFull text available:  pdf (1.05 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper describes an approach to image retrieval based on the underlying semantics of images. To extract these semantics a hierarchical, probabilistic approach is proposed. The labels that are extracted in this case are man-made, natural, inside and outside. The hierarchical framework combines class likelihood probability estimates across a number of levels to form a posterior estimate of the probability of class membership. Unlike previous work in this field, the proposed algorithm can de ...

Keywords: image retrieval, image statistics, semantic image analysis

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